A FIVE-YEAR TREND OF MEDICAL BOOKS AMONG HOUSE OFFICERS OF ABBOTTABAD IN THE PERSPECTIVE OF SELF-REGULATED LEARNING MODE

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ABSTRACT

OBJECTIVES

In the current study, the primary motive is to access the choices of medical books and trends among house officers retrospectively, from 1st year to the final year of MBBS.

METHODOLOGY

After approval of the study from the ethical committee, the cross-sectional study was undertaken in the public-private medical teaching hospitals of Abbottabad-Pakistan. The study was conducted from January 2023 to January 2024. The nonprobability purposive sampling technique was applied for data collection on a predesigned written questionnaire. The data was analyzed using SPSS software version 21.

RESULTS

Around 344 house officers (n=344) participated in the present study. Most of the participants were male {65% (225/344)}. About 300/344 use electronic media with significant female gender predominance (p=0.03). In terms of 5-year academic performance, 60% of females (71/119) had average scores in MBBS with a significance of 0.003. The rate of below-average results was 32% (96/300) in participants who preferred electronic media, while the rate was only 18% (8/44) in participants who used print media with a significance of 0.05. The fundamentals of gynecology by Arshad Chohan was significantly preferred by females as compared to Irfan Masood by males with a p-value of 0.04.

CONCLUSION

The majority of house officers used the textbooks of international authors in the first 3 years of graduation as a standard primary book but here after many preferred the books of local authors. The use of electronic media to achieve the goal is common but the effect on academics was not productive.

KEYWORDS: *E-Learning, Medical Students, Medical Books, Electronic Media, Print Media*

INTRODUCTION

Medical education is the collection of comprehensive knowledge and professional skills that should be utilized for the benefit of the community.[1] Standard medical education yields competent, skillful, and knowledgeable doctors for the community. In medical school, the students use different strategies for learning to develop professional skills and knowledge. The two most common learning strategies are self-directed learning (SDL) and self-regulated learning (SRL).[2] The two terms are used synonymously but they are different in many ways. In SDL the learner adopts the non-traditional mode outside the school environment. It is intrinsic and at the macro level. In SDL behaviors are set by the learner itself. It is a single-person-based adult education mode and is a passive mode of study. On the other hand, in SRL students use institutional-based approaches to learn actively and achieve the desired targeted goals. It is at the micro level, aim-directed behavior, which is imposed externally on the student by the tutor.[3] It is based on the student's motivation and it involves enacting strategies and meta-cognition. It's achievable in the school environment and involves multiple personality traits.[4] With the advancement of technology medical education transformed in many prospectives. The dynamicity of the 21st century in the learning environment is the digitalization of print data. Stephen King was a pioneer in inventing the first online e-learning tool in 1970.[5] The growing use of smartphones, and laptops and the availability of advanced e-book resources on the internet significantly impacted the change in trends of study among medical students.[6] The e-book has several advantages over the printed book. In 2019 the Association of American Publishers generated 26 billion dollars by the publication of printed books while e-books for 2.04 million $.[7] Besides cost-effectiveness, the digitalization of books enhances the understanding of 3D human anatomy models. Moreover, the data is easily

accessible, convenient, easy to store, easy to share, and easy to carry. Besides several benefits, the e-book has some limitations, like screen tiredness, and requiring the availability of some electronic gadgets.[8] In recent few years, a paradigm shift of preference from print media to digital library has been observed among students.[9] Before the implication of any learning model and implementation, it's important to assess the current trend of books among house officers. The main aim of this study is to assess the current practice of medical books among house officers retrospectively and to assess the preference for online sources on printed books.

METHODOLOGY

This cross-sectional prospective study was conducted among house physicians and house surgeons in three public and private teaching hospitals. The practicing house officers belong to Abbottabad Medical Complex (Abbottabad International Medical College), Shaheena Jamil Teaching Hospital (Frontier Medical College), and Ayub Teaching Hospital (Ayub Medical College). The duration of the study was one year i.e. from January 2023 to January 2024. Ethical approval was obtained from the research and ethics committee, college of Ayub Teaching Hospital before data collection (Ref.No.RC-2022/EA-01/196). The criteria for sample collection included the doctors who had completed their final year MBBS and a minimum one-house job rotation in major clinical fields like surgery or medicine so they have optimal clinical exposure as well. The purpose and aim of the study were explained and consent was obtained from the doctors before data collection. None of the identifying information was collected from the doctors. The data regarding the medical books and other academic resources like e-library, they had used in student life for five-year MBBS professional exam was collected from each participant. Moreover, the average academic GPA/Percentage through five years was also recorded. The data was collected on the predesigned written questionnaire and the data collection team comprised of participants who were post-graduate residents and had substantial knowledge about medical literature. The doctors who were suffering from mental illness, who did not sign consent, and those who were not available were excluded from the study. The dental house offices were also excluded. The data collected was entered in SPSS version 21 and statistically analyzed using descriptive statistics (frequency, percentages, mean, and standard deviation) to describe the participants' demographics and book choices. Inferential statistics using chi-square was used to describe the relationship between the demographic variables and the choice of study material. A p-value less than 0.05 was considered significant.

RESULTS

In the present study, we interviewed 400 house officers among which only 344 (n=344), met the inclusive criteria and became part of the study. The mean age of participants was 25Years±2Years. Most of the subjects were male 65% (225/344). The commonest source used was electronic media (300/344), with the assumption that the educational goals are readily achievable-120(34%). The detail is shown in Table 01.

Table 1: Characteristics of Study Participants

Gender	Male	225(65%)
	Female	119(35%)
Media	print	44(13%)
	electronic	300(87%)
Reason for electronic media	Goal easily achievable	120(35%)
	accessible	100(29%)
	cheap	76(22%)
	Time safety	28(8%)
	Habit	20(8%)
Academic abilities	average	240(70%)
	Below average	104(30%)

The most common books used for medical physiology, anatomy, and biochemistry were Guyton and Hall {284(82%)}, Richard S. Snell {259(60%)}, and Satyanarayana {232(67%)} respectively. For forensics, the Handbook of Forensic Medicine and Toxicology by Dr Amir Saleem accounts for 37% (128). For general and special pathology Robbins & cotran {172 (50%)} and Pathoma by Husain A. Sattar164(48%)} respectively commonest. For Microbiology Warren Levinson accounts for 88% (304), pharmacology Tara V Shanbhag accounts for 70% (240), for Medicine Step-up to Medicine {160(46.5%)} commonest book used by students. For surgery, gynecology, obstetrics, pediatrics, eye and Ear nose throat (ENT), participants prefer Abdul Wahab Dogar{320(92%)}, Fundamentals of Gynecology by Arshad Chohan{92(26%)}, obstetrics by Ten Teachers{288(83%)}, Basics of Pediatrics by Pervez Akbar{172(50%)}, Clinical ophthalmology Jatoi {332(96.5%)}and Disease of ear nose throat by P.L Dhingra{248(72%)}respectively, detail shown in Table 02.

Table 2: Frequencies of different books used by the participants from 1st-year MBBS to final Year MBBS

Book		Frequency
Anatomy	Richard S. Snell	234(68%)
	B.D.Chaurasia	62(17%)
	Student Gray's	44(13%)
	Kaplan Anatomy	08(2.3%)
Physiology	Guyton and Hall	284(82%)
	Firdaus	48(14%)
	Linda S. Costanzo	08(2.3%)
	Satyanarayana	234(68%)
Biochemistry	Pankaja Naik	48(14%)
	MN Chatterjee	24(07%)
	Lippincott	26(7.5%)
	Past paper	12(3.4%)
	Amir Saleem	128(37%)
Forensic	Parikh's	127(36%)
	Islami Jamiat Talba	40(12%)
	Nasib R. Awan	32(9%)
	Nagesh Kumar Rao	20(6%)
	Robbins & Cotran	172(50%)
General Pathology	Husain A. Sattar (Pathoma)	92(26%)
	Irfan Masood	36(10.5%)
	Inam danish	36(10.5%)
	Edward F. Goljan	08(2.3%)
	Husain A. Sattar (Pathoma)	164(48%)
Pathology special	Robbins & Cotran	124(36%)
	Irfan Masood	48(14%)
	Edward F. Goljan	08(02%)
	Warren Levinson	308(90%)
Microbiology	Sketchy Micro	24(7%)
	Dr Faiz Ullah Kharoti	08(2.3%)
	Kaplan	04(1.2%)
	Tara V Shanbhag	240(70%)
Pharmacology	Kaplan	44(13%)
	Shah Nawaz	28(8%)
	Katzung and Trevor's	20(6%)
	Lippincott illustrated review	12(3.5%)
	Excel by Dr M Naveed Alam	285 (82%)
Community Medicine	K. Park	50(15%)
	Past papers	8(2%)
Eye	Ophthalmology by Jatoi	332(96%)
	Naseem Sherzad	12(4.5%)
ENT	P.L Dhingra	348(72%)
	Iqbal Hussain Udaipurwala	88(26%)
	Naseem Sherzad	4(1.2%)
	Past paper	4(1.2%)
Medicine	Step-up	160(47%)
	Irfan Masood	100(29%)
	Kaplan	44(13%)
	Davidson's	40(12%)
Obstetrics	Ten Teacher	288(84%)
	Kaplan	56(16%)
	Irfan Masood	136(40%)
	Arshad Chowan	92(27%)
	Ten teachers	60 (17%)
	Kaplan	52(15%)
	Past paper	4(1.2%)
Pediatrics	Irfan Masood	172 (50%)
	Pervez Akbar khan	144 (42%)
	Short Nelson	16(5%)
	Kaplan	12(3.5%)
Surgery	Abdul Wahab Dogar	320(93%)
	Bailey and love's	12(3.5%)
	Irfan Masood	08(2.3%)
	Christian de Virgilo	4(1.2%)

DISCUSSION

Medical learning is a complex, multidimensional process in which students not only gain theoretical knowledge but also develop different medical skills. Students bear significant stresses to bring themselves to a standard level. Reading skills impact academic performance and it increases the thinking process to improve the medical essentials.[10] In the present study, we accessed our house officers regarding the mode of learning and the choices of books they used in different years of gradation. The majority of subjects who participated in the study were male (70%). When the gender and trends of books were compared there was no significant difference noted except gynecology. The use of textbooks declines as the years of graduation progress. Participants used textbooks of international authors in the first 3 years but in 4th and final years the use students used the books of country-based local authors. Gynecology was the only subject in which females significantly preferred -Fundamentals of Gynecology" by Arshad Chohan, as compared to Gynecology by Irfan Masood by male gender with a p-value of 0.04. The reason for this difference could be the gender-based lack of interest in gynecology as a specialty in the future. 87% of subjects (300/344) prefer to use the electronic media. Handley L et al. state that the majority of students adopt e-learning tools available on electronic media.[7] Wynter et al. state that the majority of students use electronic media for online question banks.[11] The main reason for the use of electronic media was to achieve the goals easily. Males (35/225) significantly use more print media than females (9/119) with a p-value of 0.03. This is contrary to a large study done in Arbs reported that 80% of girls prefer textbooks, the reason could be demographic difference.[12] Surprisingly the participants who preferred electronic media had significantly poor academic performance. Only 18% of subjects (8/44) who use print media got below the average result as compared to electronic 32% (96/300) with a p-value of 0.005. other studies state that the students who passed all modules of the exams significantly read the printed textbook (p=0.005) as compared to the students who failed the modular exam.[13,14,15] Tanner, M. J. also concluded that print books are still the best suited to the metacognitive requirements of reading brains, while e-learning lacks such property.[16] The male gender has significantly better results as compared to the female gender. 48/119 (40%) produce below than average results as compared to male 25% (56/225) with a p-value of 0.003, the reason could be the use of electronic media as previously discussed. Moreover, the female gender also has to face a lot of social, cultural, and religious norms and very few opportunities are available for medical female subjects to participate in outdoor physical

activities.[17,18]

LIMITATIONS

Due to a lack of national data, it's not possible to compare all studied variables with local studies. Yearly academic performance wasn't recorded in the present study, which would reflect the more precise academic performance and correlation with the use of a precise textbook. The study is single-centered. The study didn't assess the use and accessibility of electronic devices and the capability of using a virtual learning management system (LMS). Further behavioral studies are needed to be conducted especially on females to improve academic abilities.

CONCLUSIONS

The majority of house officers used the textbooks of international authors in the first 3 years of graduation as a standard primary book but here after many preferred the books of local authors. In medical professionals the use of electronic media to achieve the goal is common but the effect on academics is not productive. Female students prefer electronic media as compared to males. The academic capabilities are poor in females as compared to male students.

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